



CERTIFICATE OF ACCREDITATION

Certificate No. CB-0022

This is to certify that

A-STAR TECHNICAL SERVICES (THAI) CO., LTD.

***601/106, MOO 4, MAKHAM KHU, NIKHOM PHATTHANA,
RAYONG 21180, THAILAND***

has been assessed by AFIST
and meets the requirements of international standard:

ISO/IEC 17025:2017

This accreditation demonstrates technical competence for a defined scope and the
Operation of a laboratory quality management system
(as outlined by the joint ISO-ILAS-IAF Communiqué dated April 2017):

**NON-DESTRUCTIVE TESTING
(As per annexure)**

Validity of Certificate: from 17-02-2024 to 16-02-2027

Accreditation Date: 17-02-2024

Director, AFIST

Accreditation Forum of International Standards (AFIST UK LTD.)

Address: 9, Park View Road, Leeds, LS4 2LG, United Kingdom

Email: info@afist.org, Website: www.afist.org

The validity of this certificate is maintained through ongoing assessment based on a continuation accreditation cycle.
The validity of this certificate should be confirmed through the AFIST website: www.afist.org



Annexure of Certificate No. CB-0022

FIELD OF TESTING: Non-Destructive Testing

NDT Techniques	Materials/Products Tested	Standard Methods/ Equipment
1. Phased Array Ultrasonic Testing (PAUT)	All materials / products & weldments under the general standards	<u>General Standard:</u> ASME Section V, Ed 2021. <u>Specific Standards</u> ASME Section VIII (Edition 2021) ASME B31.3 (Edition 2020) ASME B31.1 (Edition 2020) ASME Sec I: 2021 ASTM E2491-13 ASTM E2700-14 BS EN ISO 13588:2019 ASME Section VIII (Edition 2021)
Corrosion Mapping	All Materials / Products & under the general standards	<u>Specific Standards</u> ASME Section V (Edition 2021). API 510:2017 API 570:2018 API 650:2020 API 653:2018
2. Time of Flight Diffraction (ToFD)	All Materials / Products & under the general standards	<u>Specific Standard</u> ASME Section VIII. ((Edition 2021) ASME B31.1: 2020 ASME B 31.3: 2020 ASME Sec IX: 2021 ASME Sec I: 2021 ASTM E2373:2014 BS EN ISO 16828:2014 ISO 13588:2019

NDT Techniques	Materials/Products Tested	Standard Methods/ Equipment
<p>3. Eddy Current Testing (ET)</p> <p>a. Ferrous and Non-Ferrous Plates, Materials and Weldment</p> <p>b. Eddy current Test (ECT) Non Ferrous Tubes</p>	<p>All Materials / Products & under the general Standards</p> <p>Material Component and structure</p>	<p><u>General Standards</u> ASME Section V, Ed 2021 BS EN ISO 17643:2015 ASME Sec V, Ed 2019 BS EN ISO 5817:2014</p> <p><u>General Standards</u> ASME Sec V, Ed 2021</p> <p><u>Specific Standards</u> ASTM E243:2013 ASTM E426:2012 ASTM E2096:2016 ASTM E703:2014 BS EN ISO 17643:2015</p>
<p>4. Visual Testing (VT)</p>	<p>Direct and Remote Visual Inspection of Welds and Material</p>	<p><u>General Standards</u> ASME Sec V, Ed :2021</p> <p><u>Specific Standards</u> ASME Sec VIII, (Edition 2021) AWS D1.1/1M: 2020 ASME B31.1 (Edition 2020) ASME B 31.3 (Edition 2020) API 510:2017 API 653:2018 API 570:2018 ISO 17637:2016 ASME B 31.3 (Edition 2020) API 510:2014 API 653:2013 API 570:2016 ISO 17637:2015 AS 3978 ED:2022</p>
<p>5. Radiography Testing (RT) Gamma Ray + X Ray (Ir 192 & Se 75)</p>	<p>All Materials / Products & under the general Standards Welded Joints</p>	<p><u>General Standards</u> ASME Section V, Ed 2021 ASME Section I, (Ed 2021) ASTM E94: 2017 BS EN ISO 5579:2013</p>

NDT Techniques	Materials/Products Tested	Standard Methods/ Equipment
<p>Corrosion Under Insulation (CUI) by Computed Radiography</p> <p>6. Positive Materials Identification (PMI) X-Ray Florescent</p>	<p>Non-Standard</p> <p>All Materials of atomic Number 22 and above</p>	<p>BS EN ISO 17636-2:2013 BS EN ISO 17636-1:2013 BS EN 10675-1: 2016 BS EN 10675-2: 2017 BS EN ISO 5817: 2014 AWS D1.1/1.2: 2015 API 510:2017 API 570:2018 API 650:2020 API 653:2018</p> <p><u>Specific Standards</u> ASME Sec VIII: 2021 ASME Sec IX: 2021 ASME Sec I: 2021 ASME B 31.8:2020 ASME B31.1: 2020 ASME B31.3: 2020 API 1104: 2016 AWS D1.1/1.1M: 2020 API 650: 2020 PD 8010-1: 2016 BS 4515-1: 2009 BS 1435: 2005 BS EN ISO 9606-1:2017 BS EN ISO 15614-1:2017 AS 2177 (ED:2006)</p> <p>ATI-QCP-CUI-93 Rev 01</p> <p><u>General Standards</u> ASTM E 1085: 2016 ASME Sec II A, B, C: 2019 ASTM E 1476 :2014 ASTM A751:2014</p>

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7. Ultrasonic Testing (UT) a. Flaw Detection (Contact Method)	All Materials / Products & Weldments under the general standard	<p><u>General Standards</u> ASME Sec V, Ed 2021 ASTM E164: 2021 BS EN ISO 17640:2018 ASME Sec VIII: 2021 ASME B31.3: 2020 ASME B31.1: 2020 AWS D1.1: 2020 ASME Sec IX: 2021 ASME Sec I: 2021 BS EN ISO 11666:2018 API STD 1104: 2018 ASTM E273:2015 ASTM E213:2020 ASTM E114:2015 API 650:2020 API 653:2018 BS EN ISO 3923 Part 1:2018 BS EN 10160:1999 BS EN ISO 23279: 2017 ASTM E797:2015 ASTM A578:2017 API 510:2017 API 570:2018 BS EN ISO 5817:2014 BS EN ISO 17635:2016 ASTM E1001-16 BS EN ISO 10893, Ed 2011</p> <p><u>Specific Standard</u> ASME Sec VIII : 2021 ASME B 31.1:2020 ASME B 31.3:2020 ASME B 31.8:2020 ASTM E164:2021 API 1104: 2016 API 620:2018 API 5L:2018 BS EN 1011 Part 1:2009 BS EN 1011 Part 2:2001</p>

NDT Techniques	Materials/Products Tested	Standard Methods/ Equipment
<p>b. Ultrasonic Thickness Measurement (UTG)</p> <p>c. Internal Rotary Inspection System (IRIS)</p>	<p>All Materials / Products & under the general Standards</p> <p>All materials/Products covered under the general standards.</p>	<p>BS EN 10246: 2000 BS EN ISO 11666:2018 BS EN ISO 9606-1:2017 AS2207 (ED:2007)</p> <p>ASME Sec V, Art 23 SE-797 :2021</p> <p>Procedure No: ATI-GP-075-IRIS REV. 00</p>
<p>8. Penetrant Testing Visible Dye (Portable) Solvent Removable</p>	<p>All Materials / Products & Weldments under the General standards</p>	<p><u>General Standards</u> ASME Sec V, Ed 2021 ASTM E165: 2018 ASME Sec I: 2021 AWS D1.1: 2020 AWS D1.6: 2017 AWS D1.2: 2013 BS EN ISO 3452-1:2013 BS EN ISO 3452-2:2013 ASTM E 1417:2016 ASTM E 1219:2016 ASTM E 1220:2016 BS EN 1011 Part 1:2009 BS EN 1011 Part 2:2001 BS EN ISO 5817:2014 BS EN ISO 3452-1:2013 ISO 23277:2015 API 510:2017 API 570:2018 API 650:2020 API 653:2018 API 5L:2018 API STD 1104: 2016</p>



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<p>9. Magnetic Particle Testing (MT) AC and DC Yoke Visible Wet and Dry Methods</p>	<p>All Materials / Products & Weldments under the general standards</p>	<p><u>Specific Standards</u> ASME Sec VIII: 2021 ASME Sec IX: 2021 ASME B31.3: 2020 ASME B31.1: 2020 AWS D1.1: 2020 API 650:2020 API 5L:2018 API STD 1104: 2016 ISO 23277:2015 AS 2062 (ED:1997)</p> <p><u>General Standards</u> ASME Sec V, Ed 2021 ASME Sec I: Ed 2021 ASTM E709: 2015 AWS D1.1: 2020 BS EN ISO 17638: 2016 ASTM 1444:2016s BS EN 1011 Part 1 :2009 BS EN 1011 Part 2 :2001 BS EN ISO 5817:2014 API 510:2017 API 570:2018 API 650:2020 API 653:2018</p> <p><u>Specific Standards</u> ASME Sec VIII: 2021 ASME B31.3: 2018 ASME B31.1: 2018 ASME B 31.8:2018 AWS D1.1: 2020 ASME Sec IX: 2019 API STD 1104: 2016 API 5L:2018 BS EN ISO 5817:2014 BS EN ISO 23278:2015 AS 1171 (ED: 1998)</p>